

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A hybrid power converter apparatus, comprising:

a variable speed energy generating device producing differing amounts of power at different speeds, wherein said different speeds are based upon matching an output power measurement to a lookup table of table values for load versus engine speed;

a hybrid uninterruptible power supply coupled in-line between an AC line and a load, wherein said hybrid uninterruptible power supply is switchably coupled to said variable speed energy generating device, wherein said hybrid uninterruptible power is comprised of a regulator section coupled to an inverter and an energy storage module coupled therebetween.

Claim 2 (Original): The apparatus according to claim 1, wherein said inverter is selected from the group consisting of: transformerless AC pulse width modulator inverter, DC-AC inverter, static inverter, rotary converter, cycloconverter, and AC-AC motor generator set.

Claim 3 (Original): The apparatus according to claim 1, wherein the variable speed energy generating device is selected from the group consisting of: internal combustion engine, turbine, micro-turbine and Stirling engine.

Claim 4 (Original): The apparatus according to claim 1, wherein said regulator section is an enhanced conduction angle dual boost DC bus voltage regulator.

Claim 5 (Original): The apparatus according to claim 1, further comprising a switch between said inverter and said load.

Claim 6 (Original): The apparatus according to claim 1, further comprising a switch coupling said hybrid uninterruptible power supply to said AC line.

Claim 7 (Original): The apparatus according to claim 1, wherein said energy storage module, is selected from the group of devices consisting of: batteries and flywheel.

Claim 8 (Original): The apparatus according to claim 1, further comprising a bypass switch coupling said AC line to said load.

Claim 9 (Original): The apparatus according to claim 8, wherein said bypass switch is a bi-directional thyristor.

Claim 10 (Original): The apparatus according to claim 1, further comprising a bypass switch coupling said variable speed energy source to said load.

Claim 11 (Original): The apparatus according to claim 10, wherein said bypass switch is a bi-directional thyristor.

Claim 12 (Currently Amended): A method for providing uninterruptible AC power to a load, comprising:

switchably coupling an AC line to a hybrid uninterruptible power supply;
coupling said hybrid uninterruptible power supply to said load, wherein said
hybrid uninterruptible power supply comprises a regulator section, an inverter and
an energy storage module; and
switchably coupling a variable speed energy source to said hybrid uninterruptible
power supply, said hybrid uninterruptible power supply adjusting a speed of said
variable speed energy source, wherein said speed is based upon matching an
output power measurement to a lookup table of table values for load versus
optimum engine speed, and wherein said variable speed energy source is coupled
to said hybrid uninterruptible power supply when said AC line is disconnected;
and
feeding said load from said hybrid uninterruptible power supply.

Claim 13 (Currently Amended): The method according to claim 12, further comprising temporarily feeding the load ~~hybrid uninterruptible power supply~~ with said energy storage module until said variable speed energy source is up to speed.

Claim 14 (Original): The method according to claim 13, wherein said feeding is derived from a load shed term.

Claim 15 (Original): The method according to claim 12, further comprising charging said energy storage module while simultaneously providing output power to said load.

Claim 16 (Original): The method according to claim 12, further comprising steps selected from at least one of the steps consisting of: correcting for sag, correcting for surge, peak shaving, compensating for VAR, active filtering and elimination of active harmonics.

Claim 17 (Currently Amended): A hybrid variable speed generator/uninterruptible power supply device, comprising:

a variable speed generator producing differing amounts of power at different speeds, wherein said different speeds are processed based upon matching an output power measurement to a pre-programmed lookup table of table values for load versus engine speed; and

a hybrid uninterruptible power supply coupled in-line between an AC line and a load, wherein said hybrid uninterruptible power supply is switchably coupled to said variable speed generator, and wherein said hybrid uninterruptible power is comprised of an enhanced conduction angle dual boost DC regulator section coupled to an inverter with an energy storage module coupled therebetween.

Claim 18 (New): The system according to claim 1, wherein said table values represent a set of pre-programmed points on a curve of optimum engine speed for a specified load.

Claim 19. (New): The apparatus according to claim 1, wherein said curve is processed from one of the group consisting of: efficiency, emissions, audible noise, transient response, and overload capability.

Claim 20. (New): The apparatus according to claim 1, wherein said hybrid uninterruptible power supply includes an enhanced conduction angle dual boost DC regulator section.